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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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| | Application No. | Applicant(s) |
|---|---|---|
| **Office Action Summary** | 10/567,101 | ISOZU, MASAAKI |
| | Examiner | Art Unit | |
| | TIMOTHY PHAM | 2617 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *03 February 2006*.
2a)☐ This action is **FINAL**.      2b)☒ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☐ Claim(s) *1-43* is/are pending in the application.
    4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) *1-43* is/are rejected.
7)☐ Claim(s) _____ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.
10)☒ The drawing(s) filed on *03 February 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a)☒ All   b)☐ Some * c)☐ None of:
      1.☒ Certified copies of the priority documents have been received.
      2.☐ Certified copies of the priority documents have been received in Application No. _____.
      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 101*

1.     35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of
> matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the
> conditions and requirements of this title.

2.     Claims 11, 42-43 are rejected under 35 U.S.C. 101 because the claimed inventions are

directed to non-statutory subject matter.

Claims 11, 42-43 are drawn to "a computer program" per se. That is a "Functional

Descriptive Material". See MPEP § 2106.01(I). Functional descriptive material such as

computer programs and/or data structures not claimed as embodied in computer-readable media

are descriptive material per se and are not statutory because they are not capable of causing

functional change in the computer. Such claimed data structures do not define any structural and

functional interrelationships between the data structure and other claimed aspects of the

invention which permit the data structure's functionality to be realized." See MPEP 2106.01(I).

In the instant case, claim(s) do not meet the test above and therefore are rejected as non-statutory

subject matter.

### *Claim Rejections - 35 USC § 102*

3.     The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed
> in the United States before the invention by the applicant for patent or (2) a patent granted on an application for
> patent by another filed in the United States before the invention by the applicant for patent, except that an
> international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this

subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4.      Claims 1-43 are rejected under 35 U.S.C. 102(e) as being anticipated by Gutierrez et al.

(hereinafter "Gutierrez"; US 2004/0233855).

Regarding claim 1 and 14, Gutierrez discloses a communication system comprises

a plurality of communication terminals (Abstract; Fig. 3, references ND0 through ND11;

paragraphs [0064]) and based on a message originated from a first communication terminal to a

third communication terminal via a second communication terminal (paragraphs [0022], [0024],

[0027], [0029], [0058]), the second and third communication terminals create a route to the first

communication terminal (paragraphs [0027]-[0028], e.g., A complete communication route

between the first ad-hoc network device and the ad-hoc network coordinator may be defined by

the first ad-hoc network device, the second ad-hoc network device, the third ad-hoc network

device and the ad-hoc network coordinator) and communication is made between the first and

third communication terminals via the created route (paragraphs [0027]-[0029], [0169], e.g., The

complete communication route may be defined by the ad-hoc network coordinator, the first ad-

hoc network device, the second ad-hoc network device and the third ad-hoc network device),

wherein the second and third communication terminals comprise:

route creation means for creating a plurality of the routes to the first communication

terminal by duplicatively receiving the message (paragraphs [0066], [0080], [0082], [0139], e.g.,

the message is  duplicated as the last message received); and

route management means for storing and managing the plurality of routes created by the

route creation means (Abstract; paragraphs [0010], [0015], [0022], [0024], [0031]-[0032], e.g.,

storing a plurality of complete communications routes for at least some of the network devices),

and

the route management means establishes one of the created routes as a communication

route to the first communication terminal and changes the communication route to any of the

plurality of routes depending on needs (Table 1; paragraphs [0042], [0046], [0111]-[0115], e.g.,

the routes chosen are adapted to reflect changes in the traffic pattern).

Regarding claim 2, Gutierrez discloses the communication system according to claim 1

above, wherein the route management means specifies a priority for each of the created routes

based on a specified criterion and preferentially establishes the route with the high priority as the

communication route (paragraphs [0066], [0094], [0158], e.g., this "best" neighbor ND 14 will

have the highest priority in the upstream transfer mode 36).

Regarding claim 3 and 10, Gutierrez discloses a communication terminal device and a

control method for a communication terminal device comprising:

transmission means for transmitting a specified message assigned with an intended first

communication terminal as transmission destination (paragraphs [0078], [0081], e.g., the NC24

may select the optimum way to transfer the data to the final ND 14);

route creation means for duplicatively receiving a response to the message originated

from the first communication terminal and transferred via a second communication terminal to

create a plurality of routes up to the first communication terminal (paragraphs [0066], [0080],

[0082], [0139], e.g., the message is  duplicated as the last message received);

route management means for storing the plurality of routes created by the route creation

means and establishing one of the plurality of routes as a communication route (Abstract;

paragraphs [0010], [0015], [0022], [0024], [0031]-[0032], e.g., storing a plurality of complete

communications routes for at least some of the network devices); and

communication means for communicating with the first communication terminal via the

established communication route (paragraphs [0078], [0081]),

wherein the route management means switches the communication route to any of the

plurality of routes depending on needs (paragraphs [0042], [0068], [0111]-[0115], e.g., the routes

chosen are adapted to reflect changes in the traffic pattern).

Regarding claim 4, Gutierrez discloses the communication system according to claim 3

above, wherein the communication means starts communication with the first communication

terminal after the route creation means receives the first response and a specified time interval

elapses, or after reception of a specified number of the responses from the first communication

terminal (paragraphs [0010], [0013], [0023], e.g., upon initialization, engage in a neighbor

discovery process, in which the best multi hop neighbor is discovered).

Regarding claim 5, Gutierrez discloses the communication system according to claim 3

above, wherein the route management means specifies a priority for each of the created routes

based on a specified criterion and preferentially establishes the route with the high priority as the

communication route (paragraphs [0066], [0094], [0158], e.g., this "best" neighbor ND 14 will

have the highest priority in the upstream transfer mode 36).

Regarding claim 6, Gutierrez discloses the communication system according to claim 3 above, wherein the route management means lists to manage specified information about the created routes (paragraphs [0128], [0135], Tables 2, 4, and 6).

Regarding claim 7, Gutierrez discloses the communication system according to claim 4 above, wherein the route management means dynamically changes the criterion depending on a communication situation of the route and reassigns the priority to the created route [paragraphs [0010]-[0011], [0023], [0078]).

Regarding claim 8, Gutierrez discloses the communication system according to claim 3 above, wherein the route management means deletes a route which belongs to the plurality of created routes and is unused for a specified time period (paragraphs [0073], [0083], [0134], [0139], [0141], [0148], noted that discards the message and denying any ND wanting to connect to the network).

Regarding claim 9, Gutierrez discloses the communication system according to claim 3 above, wherein, when the created routes exceed a predetermined maximum value (paragraphs [0152]-[0153], e.g., result has the value ERR_ROUTE when a maximum number of addresses was exceeded), the route management means successively deletes the routes in a chronological order (paragraphs [0152]-[0153], noted when a maximum number of addresses was exceeded, then the message was corrupted, therefore, it means the route management deletes the routes in a chronological order).

Claim 11 is drawn to a program which allows a computer to perform a process for generating steps of claim 3. Therefore, the same rationale applied to claim 3 applies. In addition,

Gutierrez inherently discloses a computer program product, i.e., given that Gutierrez discloses a

process (paragraph [0040], [0049], [0098]), the process would be implemented by a processor

that requires a computer program product, e.g., a RAM, to function.

Regarding claims 12-13, Gutierrez discloses a communication terminal device and a

control method for a communication terminal device,

which relays a message (paragraphs [0065], [0070], [0076]-[0077], [0081]) originated

from a first communication terminal to a second communication terminal and creates a route to

the first communication terminal based on the message (paragraphs [0022], [0024], [0027],

[0029], [0058]), the communication terminal device comprising:

route creation means for creating a plurality of the routes to the first communication

terminal by duplicatively receiving the message (paragraphs [0066], [0080], [0082], [0139], e.g.,

the message is  duplicated as the last message received); and

route management means for storing and managing the plurality of routes created by the

route creation means (Abstract; paragraphs [0010], [0015], [0022], [0024], [0031]-[0032], e.g.,

storing a plurality of complete communications routes for at least some of the network devices),

wherein the route management means establishes one of the created routes as a

communication route to the first communication terminal and changes the communication route

to any of the plurality of routes depending on needs (Table 1; paragraphs [0042], [0111]-[0115]).

Regarding claim 15, Gutierrez discloses the communication system according to claim 14 above, the route request transmission means for the first communication terminal transmits the route request corresponding to an attribute of data to be transmitted to the third communication terminal according to the communication (paragraphs [0100]-[0102], [0123]-[0125]; Table 1, see PIBAtribute Value).

Regarding claim 16, Gutierrez discloses the communication system according to claim 14 above, wherein the third communication terminal has response origination means for originating a response corresponding to the route request when the route request is received (Fig. 9; reference "NK-DATA.CONFIRM"; paragraphs [0069], [0096], [0107], [0110]);

wherein the first communication terminal has route establishment means for establishing the communication route to the third communication terminal using the route satisfying the route request based on the response transmitted from the third communication terminal via the second communication terminal (paragraphs [0022], [0024], [0027], [0029], [0058]), and

the route establishment means for the first through third communication terminals individually establishes the communication route from the first communication terminal to the third communication terminal and the communication route from third communication terminal to the first communication terminal so as to be different from each other based on the route request and the response to the route request (paragraph [0076], e.g., The NC 24 and NDs 14 employ different ways to route messages in the network 23. The NDs 14 follow the localized routing principle, while the NC 24 follows the centralized routing principle).

Regarding claim 17, Gutierrez discloses the communication system according to claim 14 above, wherein route request transmission means for the first communication terminal transmits the route request to update lifetime of the route (paragraphs [0008], [0010], [0085], [0090]-[0091], [0094]-[0095], e.g., route update), and the route establishment means for the second and third communication terminals update the lifetime for the corresponding route in accordance with the route request (paragraphs [0008], [0010], [0085], [0090]-[0091], [0094]-[0095]).

Regarding claim 18, Gutierrez discloses the communication system according to claim 14 above, wherein, when retransmitting the route request (paragraphs [0068], [0154]), the route request transmission means for the first communication terminal changes to relieve conditions specified as the route request (paragraphs [0014], [0083], [0095], noted that the special "Route Error" message 58).

Regarding claim 19, Gutierrez discloses a communication terminal device comprising:

transmission means for transmitting a specified first message assigned with an intended first communication terminal as transmission destination (paragraphs [0078], [0081], e.g., the NC24 may select the optimum way to transfer the data to the final ND 14); and

route request transmission means for using the first communication terminal as transmission destination and for transmitting a route request composed of a request for the route to be used for communication with the first communication terminal (paragraphs [0078], [0081],[0094]).

Regarding claim 20, Gutierrez discloses a communication terminal device according to claim 19 above, wherein the route request transmission means transmits the route request

corresponding to an attribute of data to be transmitted to the first communication terminal

(paragraphs [0100]-[0102], [0123]-[0125]; Table 1, see PIBAtribute Value).

Regarding claim 21, Gutierrez discloses a communication terminal device according to

claim 19 above, wherein, when retransmitting the route request (paragraphs [0068], [0154]), the

route request transmission means changes to relieve a request for the route (paragraphs [0014],

[0083], [0095], noted that the special "Route Error" message 58).

Regarding claims 22, 25, Gutierrez discloses a communication terminal device, a control

method, and  comprising:

route creation means for duplicatively receiving a first message originated from a first

communication terminal or a second message originated from a second communication terminal

(paragraphs [0066], [0080], [0082], [0139]) in response to the first message to create a plurality

of routes to the first and second communication terminals (paragraphs [0027]-[0029], e.g., The

first processor may employ a full source routing protocol for communication of a plurality of

messages from the first communication interface of the ad-hoc network coordinator to the second

communication interface of the ad-hoc network devices); and

route establishment means for establishing a communication route between the first and

third communication terminals using the route which belongs to the plurality of routes created by

the route creation means (paragraphs [0022], [0024], [0027], [0029], [0058]) and satisfies the

route request based on a route request originated from the first communication terminal and

composed of a request for the route to be used for communication with the second

communication terminal (paragraphs [0022], [0024], [0027], [0029], [0058]).

Regarding claim 23, Gutierrez discloses the communication terminal device according to claim 22 above, wherein the route establishment means individually establishes the communication route from the first communication terminal to the second communication terminal and the communication route from second communication terminal to the first communication terminal so as to be different from each other based on the route request and a response originated from the second communication terminal in response to the route request (paragraphs [0076]-[0079]).

Regarding claim 24, Gutierrez discloses the communication terminal device according to claim 22 above, wherein the route establishment means updates lifetime of the corresponding route based on the route request (paragraphs [0008], [0010], [0085], [0090]-[0091], [0094]-[0095], e.g., route update).

Regarding claim 26, Gutierrez discloses a communication terminal device comprising:

route creation means for duplicatively receiving a first message originated from a first communication terminal to itself as destination to create a plurality of routes to the first communication terminal (paragraphs [0078], [0081],[0094]); and

route establishment means for establishing a communication route to the first communication terminal using the route which belongs to the plurality of routes created by the route creation means (paragraphs [0022], [0024], [0027], [0029], [0058]) and satisfies the route request based on a route request originated from the first communication terminal and composed of a request for the route to be used for communication with itself (paragraphs [0022], [0024], [0027], [0029], [0058], [0078], [0081],[0094]).

Regarding claim 27, Gutierrez discloses a communication system comprising

a plurality of communication terminals (Abstract; Fig. 3, references ND0 through ND11; paragraphs [0064]), and based on a message originated from a first communication terminal to a third communication terminal via a second communication terminal (paragraphs [0022], [0024], [0027], [0029], [0058]), creates routes to the first communication terminal by using the second and third communication terminals to communicate between the first and third communication terminals via the created route (paragraphs [0027]-[0029], [0169], e.g., The complete communication route may be defined by the ad-hoc network coordinator, the first ad-hoc network device, the second ad-hoc network device and the third ad-hoc network device),

wherein the second communication terminal has state notification means for detecting a possible disconnection state in terms of a disconnection symptom for communication on the route as an upstream side for the message and notifying the possible disconnection state to the first communication terminal (paragraphs [0083], [0090], [0094], e.g., the ND 14 sends back a special "Route Error" message 58, which informs the preceding ND 14 (e.g., ND9) (or the NC 24) that the routing operation failed) , and the first communication terminal has message origination means for generating the message using a creation condition according to a route other than the route matching the possible disconnection state notified from the second communication terminal and originating the message (paragraphs [0091]-[0092], [0095], [0105]).

Regarding claim 28, Gutierrez discloses the communication system according to claim 27 above, wherein the state notification means detects the possible disconnection state based on at

least two different communication criteria (Fig. 6; paragraphs [0073], [0095], see updates the

parameters LinkQuality 64 when a Route Error message received).

Regarding claim 29, Gutierrez discloses the communication system according to claim 27

above, wherein the state notification means limits the number of the possible disconnection states

notified to the first communication terminal at a specified ratio (paragraph [0093], e.g., If the

function value falls below a predetermined threshold, then that node is removed from the routing

table 30).

Regarding claim 30, Gutierrez discloses the communication system according to claim 27

above, wherein the message origination means generates the message using a creating condition

according to the route in a better condition than the possible disconnection state (paragraphs

[0023], [0076], [0085], e.g., determining the "best" suitable relaying neighbor ND 14).

Regarding claim 31, Gutierrez discloses the communication system according to claim 27

above, wherein the message origination means measures the number of notifications of the

possible disconnection state notified from the second communication terminal on a unit time

basis (paragraph [0122]) and, when a measurement result exceeds a specified number of times,

generates the message using a creation condition according to a route other than the route

(paragraph [0152]-[0153], e.g., a peer node cannot relay a message to a particular address

because a maximum number of addresses was exceeded).

Regarding claim 32, Gutierrez discloses the communication system according to claim 31

above, wherein the message origination means measures the number of notifications of the

possible disconnection state notified from the second communication terminal on a unit time

basis (paragraph [0122]) and, when a measurement result exceeds a specified number of times,

generates the message using a creation condition according to a route in a better state than

statistical results of the possible disconnection states corresponding to the number of

notifications (paragraphs [0070], [0094], e.g., maintaining statistics and routing information

about all nodes connected to the network 23).

Regarding claims 33 and 36, Gutierrez discloses a communication terminal device and a

communication method for a communication terminal device

which mediates between a communication terminal as transmission origin and a

communication terminal as transmission destination and based on a message originated from the

communication terminal as transmission origin to the communication terminal as transmission

destination (paragraphs [0078], [0081],[0094]), creates a route to the communication terminal as

transmission origin, the communication terminal device comprising:

state notification means for detecting a possible disconnection state in terms of a

disconnection symptom for communication on the route as an upstream side for the message and

notifying the possible disconnection state to the communication terminal as transmission origin

(paragraphs [0083], [0090], [0094], [0163], e.g., if a message employing "downstream transfer"

causes an error, then the Route Error message is sent back via the "upstream transfer" mode).

Regarding claim 34 is rejected with the same reasons set forth in claim 28.

Regarding claim 35 is rejected with the same reasons set forth in claim 29.

Regarding claims 37 and 41, Gutierrez discloses a communication terminal device and a communication method for a communication terminal device which,

based on a message originated from itself to a communication terminal as transmission destination, creates a route to itself by means of a communication terminal mediating between itself and a communication terminal as transmission destination and communicates with a communication terminal as transmission destination via the created route (paragraphs [0078], [0081],[0094]), the communication terminal device comprising:

message origination means for, when the mediating communication terminal notifies a possible disconnection state in terms of a disconnection symptom for communication on the route upstream of the message, generating the message using a creation condition according to a route other than the route matching the possible disconnection state and originating the message (paragraphs [0083], [0090], [0094], [0163], e.g., if a message employing "downstream transfer" causes an error, then the Route Error message is sent back via the "upstream transfer" mode).

Regarding claim 38 is rejected with the same reasons set forth in claim 30.

Regarding claim 39 is rejected with the same reasons set forth in claim 31.

Regarding claim 40 is rejected with the same reasons set forth in claim 32.

Claim 42 is drawn to a program for a communication terminal device for generating steps of claim 36. Therefore, the same rationale applied to claim 36 applies. In addition, Gutierrez inherently discloses a computer program product, i.e., given that Gutierrez discloses a process

(paragraph [0040], [0049], [0098]), the process would be implemented by a processor that

requires a computer program product, e.g., a RAM, to function.

Claim 43 is drawn to a program for a communication terminal device for generating steps

of claim 41. Therefore, the same rationale applied to claim 41 applies. In addition, Gutierrez

inherently discloses a computer program product, i.e., given that Gutierrez discloses a process

(paragraph [0040], [0049], [0098]), the process would be implemented by a processor that

requires a computer program product, e.g., a RAM, to function.

## *Conclusion*

Any inquiry concerning this communication or earlier communications from the
examiner should be directed to TIMOTHY PHAM whose telephone number is (571)270-7115.
The examiner can normally be reached on Monday-Friday; 7:30AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's
supervisor, Vincent P. Harper can be reached on 571-272-7605. The fax phone number for the
organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent
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/ Timothy Pham/                                    /VINCENT P. HARPER/
Examiner, Art Unit 2617                            Supervisory Patent Examiner, Art Unit
                                                   2617